

Contents

Series Editor's Introduction	ix
J. Rick Turner	
Preface	xiii
Acknowledgments	xvii



1. Behavioral Medicine and Biomedicine	1
The Age of Enlightenment and the Emergence of Scientific Thought	3
Claude Bernard and the Modern Biomedical Model	7
2. Psychosocial Models of Health and Disease	11
The Standard Biomedical Model and New Approaches to Medicine	12
A Biobehavioral Model of Disease and Treatment	15
Placebo Effects	18
Cultural, Intrapersonal, and Physiological Influences in Coronary Heart Disease	20
Psychosocial Theories of Disease and Treatment	23
The Foundation of Behavioral Medicine	24

3. History of the Concept of Stress	27
Definition of Stress	28
Claude Bernard and the Vitalists	29
Walter Cannon	30
Hans Selye	32
Additional Considerations About the Stress Concept	32
4. Normal Physiological Regulation: The Autonomic Nervous System and Endocrine Outflow	35
Overview of Homeostatic Controls	36
Intrinsic Control Mechanisms	39
Autonomic and Endocrine Controls	41
Integration and Higher Control of Autonomic Function	49
5. Physiological Regulation During Physical and Psychological Stress	55
Classes of Stress Responses	56
The Exercise Response	57
Exercise and Adaptation to Stress	61
The Fight-Flight Response	61
Different Emotions and Motivations Accompanying the Exercise and Fight-Flight Responses	63
Psychological Stress	65
Responses to Aversive and Nonaversive Challenges	67
Activation and Distress	70
Discussion	71
6. Central Nervous System Integration of the Psychological Stress Response	75
Psychological Stress	76
Central Integration of the Response to Psychological Stress	81
The Central Nervous CRF System	93
Cortisol Has Dual Modes of Regulation	97
Endocrine-Immune Interactions	97
The Formation of Psychological Stress Responses	98

7. Helplessness, Coping, and Health	101
Death Due to Uncontrollable Stress	102
Helplessness and Exposure to Uncontrollable Stress	106
Studies of Ulceration in Rats	107
Learned Helplessness and the Consequences of Lack of Control	111
Central Neurotransmitters and Severe Stress	114
Uncontrollable Shock, Norepinephrine, and Depression	114
Serotonin Mechanisms	116
Emotions and Health	117
Discussion	118
8. The Immune System and Behavior	123
Overview of the Immune System	124
Structural Components of the Immune System	124
Immune System Cells	125
Immune System Messengers	127
Innate Resistance	128
Acquired Immunity and Establishment of Immune System Memory	129
The Behavior-Immune Interface	131
Behavior-Immune Interactions and Health Indicators	134
Stress Buffers, Positive Emotions, and Physical Health	140
Discussion	141
9. Individual Differences in Central, Autonomic, and Endocrine Responses to Stress	145
Individual Differences in Stress Responses May Be Determined by Reactions at Several Levels in the Central Nervous System	146
Persons May Differ in Stress Reactivity Because of Inborn Factors or Experience	146
Sources of Individual Difference in Stress Responses	147
Individual Differences in Autonomic and Endocrine Reactivity to Stressor Challenge	153
Central Nervous System Activity in Relation to Cardiovascular and Endocrine Reactivity	157

Health Outcomes Related to Cardiovascular and Endocrine Response Tendencies	157
Discussion	161
10. Behavior, Stress, and Health	165
The Historical Dilemma of Mind-Body Dualism Matter and Behavior	165
Behavioral Medicine in Relation to Traditional Medicine	167
Systems Organization and Stress	171
Psychological Stress and Its Consequences	172
Stress and Behavioral Medicine	174
Psychological Stress and Its Bodily Effects	175
Stress, Stress Reduction, and Improved Health	176
	177
■	
References	179
Author Index	189
Subject Index	195
About the Author	203